

ABSTRACT OF THE DISCLOSURE

Methods are provided for depositing a dielectric material. The dielectric material may be used for an anti-reflective coating or as a hardmask. In one aspect, a method is provided for processing a substrate including introducing a processing gas comprising a silane-based compound and an oxygen and carbon containing compound to the processing chamber and reacting the processing gas to deposit a nitrogen-free dielectric material on the substrate. The dielectric material comprises silicon and oxygen. In another aspect, the dielectric material forms one or both layers in a dual layer anti-reflective coating.

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